CHOLESTEROL TRANSPORT GENE WO0132184 Patent Number: Publication date: 2001-05-10 BROOKS-WILSON ANGIE;; COOK MARK;; ATTIE ALAN D;; PIMSTONE SIMON;; Inventor(s): GRAY-KELLER MARK P;; HAYDEN MICHAEL R WISCONSIN ALUMNI RES FOUND (US) Applicant(s): Requested Patent: WO0132184 Application Number: WO2000US30109 20001101 US19990162803P 19991101; US20000215564P 20000630 Priority Number(s): IPC Classification: A61K31/64 EC Classification: Equivalents: AU1452601, EP1227818 (WO0132184), A3 WO0034461; WO9857649; WO0055318; WO0018912 Cited Documents: **Abstract** Methods and compounds are disclosed for lowering serum LDL levels or serum cholesterol levels, or for reducing the transport of cholesterol from the gut to the blood or the lymph, based on the observation that a gene known as ABC1 is necessary in order for cholesterol to be transported from the intestinal lumen into the bloodstream. A mutant chicken phenotype, known as the WHAM chicken, characterized by low levels of serum LDL and reduced transport of cholesterol, facilitated the discovery of this function of the ABC1 gene.

Techniques which act to inhibit ABC1 activity in the cells of the intestinal wall will result in lower serum

Data supplied from the esp@cenet database - 12

cholesterol.

(19) World Intellectual Property Organization International Bureau



(43) International Publication Date 10 May 2001 (10.05.2001)

PCT

(10) International Publication Number WO 01/32184 A2

(51) International Patent Classification7:

A61K 31/64

- (21) International Application Number: PCT/US00/30109
- (22) International Filing Date:

1 November 2000 (01.11.2000)

(25) Filing Language:

English

(26) Publication Language:

English

US

- (30) Priority Data: 60/162,803 1 November 1999 (01.11.1999) 60/215,564 30 June 2000 (30.06.2000)
- (71) Applicant: WISCONSIN ALUMNI RESEARCH FOUNDATION [US/US]; 614 Walnut Street, P.O. Box 7365, Madison, WI 53707-7365 (US).
- (72) Inventors: ATTIE, Alan, D.; 1906 Vilas Avenue, Madison, WI 53711 (US). COOK, Mark; 15 Kewaunee Court, Madison, WI 53705 (US). GRAY-KELLER, Mark, P.; 4558 Stone Wood Drive, Middleton, WI 53562 (US). HAYDEN, Michael, R.; 3250 East Mall, Vancouver, British Columbia V6T 1W5 (CA). PIMSTONE, Simon; 3250 East Mall, Vancouver, British Columbia V6T 1W5

(CA). BROOKS-WILSON, Angie; 3250 East Mall, Vancouver, British Columbia V6T 1W5 (CA).

- (74) Agent: SEAY, Nicholas, J.; Quarles & Brady LLP, P.O. Box 2113, Madison, WI 53701-2113 (US).
- (81) Designated States (national): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW.
- (84) Designated States (regional): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG).

5/3

Published:

 Without international search report and to be republished upon receipt of that report.

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

A2

(54) Title: CHOLESTEROL TRANSPORT GENE

(57) Abstract: Methods and compounds are disclosed for lowering serum LDL levels or serum cholesterol levels, or for reducing the transport of cholesterol from the gut to the blood or the lymph, based on the observation that a gene known as ABC1 is necessary in order for cholesterol to be transported from the intestinal lumen into the bloodstream. A mutant chicken phenotype, known as the WHAM chicken, characterized by low levels of serum LDL and reduced transport of cholesterol, facilitated the discovery of this function of the ABC1 gene. Techniques which act to inhibit ABC1 activity in the cells of the intestinal wall will result in lower serum cholesterol.